bubBLizer™ 2.0

Maintenance & Parts Manual

US Patent
No. 8,418,701

NS WASH™ SYSTEMS
www.nswash.com

Quality Management System • Certified By DNV • ISO 9001:2008

Manufacturers of Vehicle Cleaning Equipment Since 1961

Rev. 05/13

Polish + Wash
The
bubblizer
NS WASH

Thank You!

Thanks for your confidence in NS Corporation and our vehicle washing products. If this is your first time as an NS equipment purchaser we welcome you to our family of customers dating back to 1961.

Thank you again if this purchase of equipment is the most recent in your loyal history as an NS customer. We truly appreciate your continued confidence in our company and it's products. Your trust in us is the heart of our on-going success.

In today's market every company, no matter the industry, must be Quality conscious. Our view of Quality goes beyond the delivery of equipment fabricated and assembled with exceptional care. In fact, the entire NS staff is dedicated to provide Quality products and Quality Customer Service. Every member of the NS team, including our worldwide Distributor organization, is committed to this sense of pride and professionalism in our efforts to assist you in achieving success in your vehicle washing business.

We want to hear your comments concerning your entire experience with NS during this most recent purchase. Please contact either one of us, or our Customer Service Director, with your report card on our performance.

Thanks again for purchasing your equipment from NS. We appreciate your business.

Thomas Ennis Sr.

Chief Executive Officer

Table of Contents

Thank You! — 3
Thomas Sr.
Table of Contents — 4
System Specifications — 5
Options
Operating Description — 6
Precautions
Bubblizer™ — 7
Figure A
Installation — 8
Sequence
Bubblizer™ Tank — 9
Isometric Views
Wax Applicator — 10
Orthographic Views
Bubblecano Signs — 11
Optional
Plumbing Manifolds — 12
Orthographic Views
Plumbing Manifold — 13
Float Switch
Top Hatch-Restraint — 14
Pictures
DEMA Injector — 15
Detergent Injection
Air Blower Assembly — 16
Steps 1-3
Electrical Schematics — 17
Sheet 1
Electrical Schematics — 18
Layout BOM
Optional LED Kit — 19
For RGB Changing Lights
Optional LED Kit — 20
Modes
Optional LED Kit — 21
Safety and Connections
Chemical Metering Board — 22
DEMA MixRite 57 250:1
DEMA MixRite — 23
500 Series Click Chart
DEMA MixRite — 24
Proportional Injector
DEMA MixRite — 25
Specifications
DEMA MixRite — 26
Technical Data
DEMA MixRite — 27
Installation
DEMA MixRite — 29
Adjustments
DEMA MixRite — 30
Air Release Valve
DEMA MixRite — 31
On/Off System
DEMA MixRite — 32
Troubleshooting
Manufacturers Limited Warranty 33
Warranty Procedures — 34

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NS WASH SYSTEMS

System Specifications
Options

Specifications

- One 1.5 HP/ 120VAC/ 1 phase/ 7.4 Amp motor
- All PVC internal Bubblizer™ plumbing manifold
- Tank built with hinged top hatch for easy access
- Mounts to 4"x 4" square anchor, 6"x 6" square NS bulkhead or to 4"Ø round arch
- Standard White Powder-coated aluminum tank
- Choice of yellow, blue, red lights
- Vehicle Height Clearance 96"

Equipment Options

- Can be mounted to free-standing arches or equipment
- LED Leg Mounted Vertical Signs
- Custom Top Sign Package
- Multi-color Lights
- Dosing Pump (MixRite)

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1-800-245-0350
FOR PARTS & SERVICE

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Rev 05/13 • May 2013

Operating Description
Precautions w/Optional Electrical Panel

1 Bubblizer™ control panel receives its 120VAC 1PH power from service source. (See sheet of panel schematic)

2 Activation of Bubblizer™ is the result of carwash controller sending 120 V AC signal to Bubblizer™ control panel.

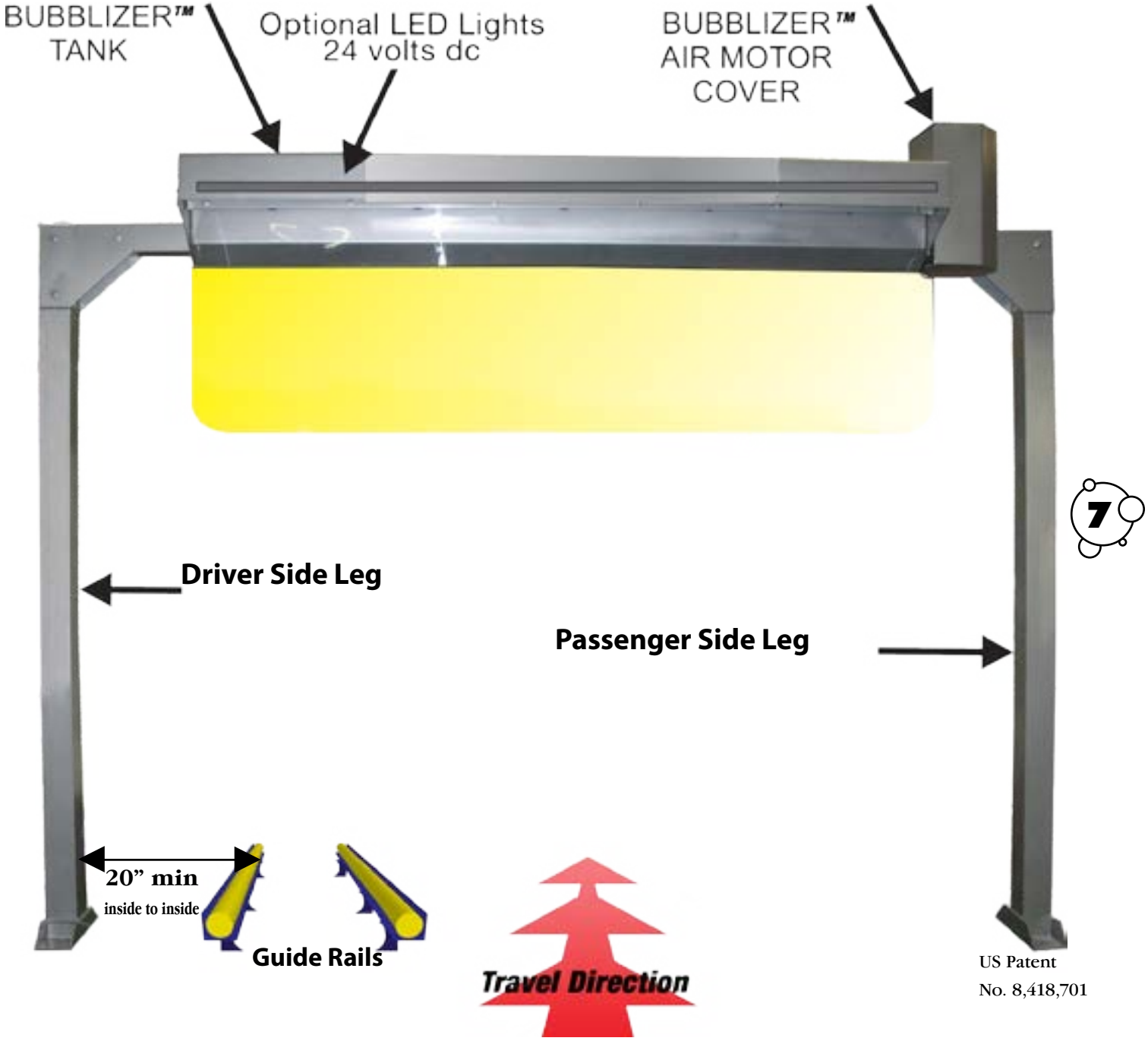
3 Water to Bubblizer™ to be from fresh water source.

4 Optional H-O-A switch on Bubblizer™ control panel should be on OFF when machine is not in service. Turn knob to A prior to car wash start up (Automatic.)

5 Fluid inside Bubblizer™ tank is composed of fresh water mixed with chemical. Source of mixture is from DEMA injector or the optional DEMA MixRite manifold. Fresh water flowing to and thru pump inlet causes pump to draw chemical from chemical container and pump mixture downstream to Bubblizer™ tank. A solenoid valve will open to allow fresh water through the DEMA injector/Dosing pump to maintain proper solution level in Bubblizer™ tank.

6 Air motor blows air through a perforated tube located inside the Bubblizer™ tank. Fluid inside Bubblizer™ tank will be bubblized and overflow through the discharge opening of Bubblizer™ tank and onto the vehicles below. When air pump stops pumping air into Bubblizer™ tank, no bubbles are made and discharged onto vehicles.

Bubblizer™
Figure A



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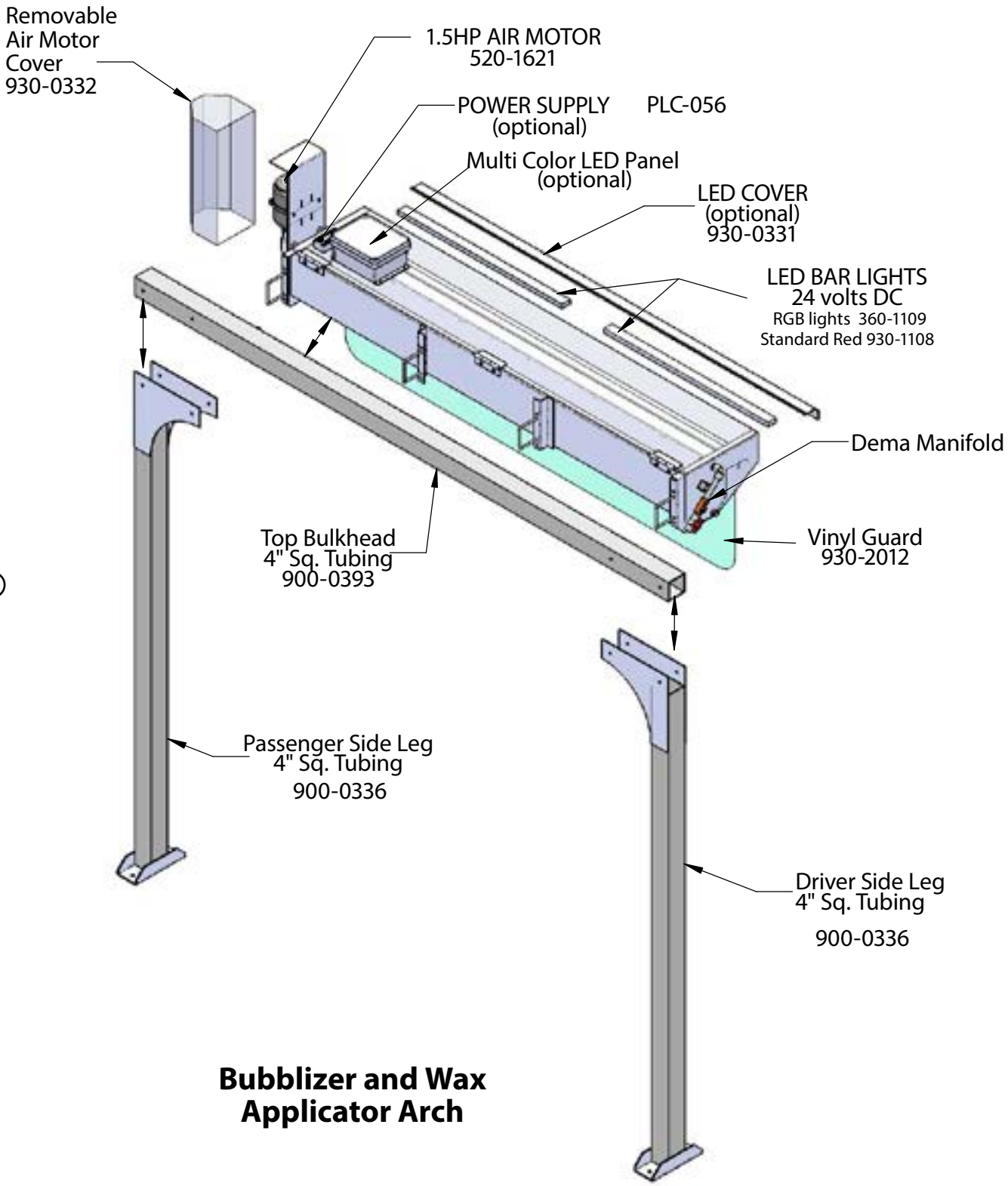
Bubblizer™ with Optional Light Bars
Figure A

Installation
Sequence



8

Bubblizer and Wax Applicator Arch

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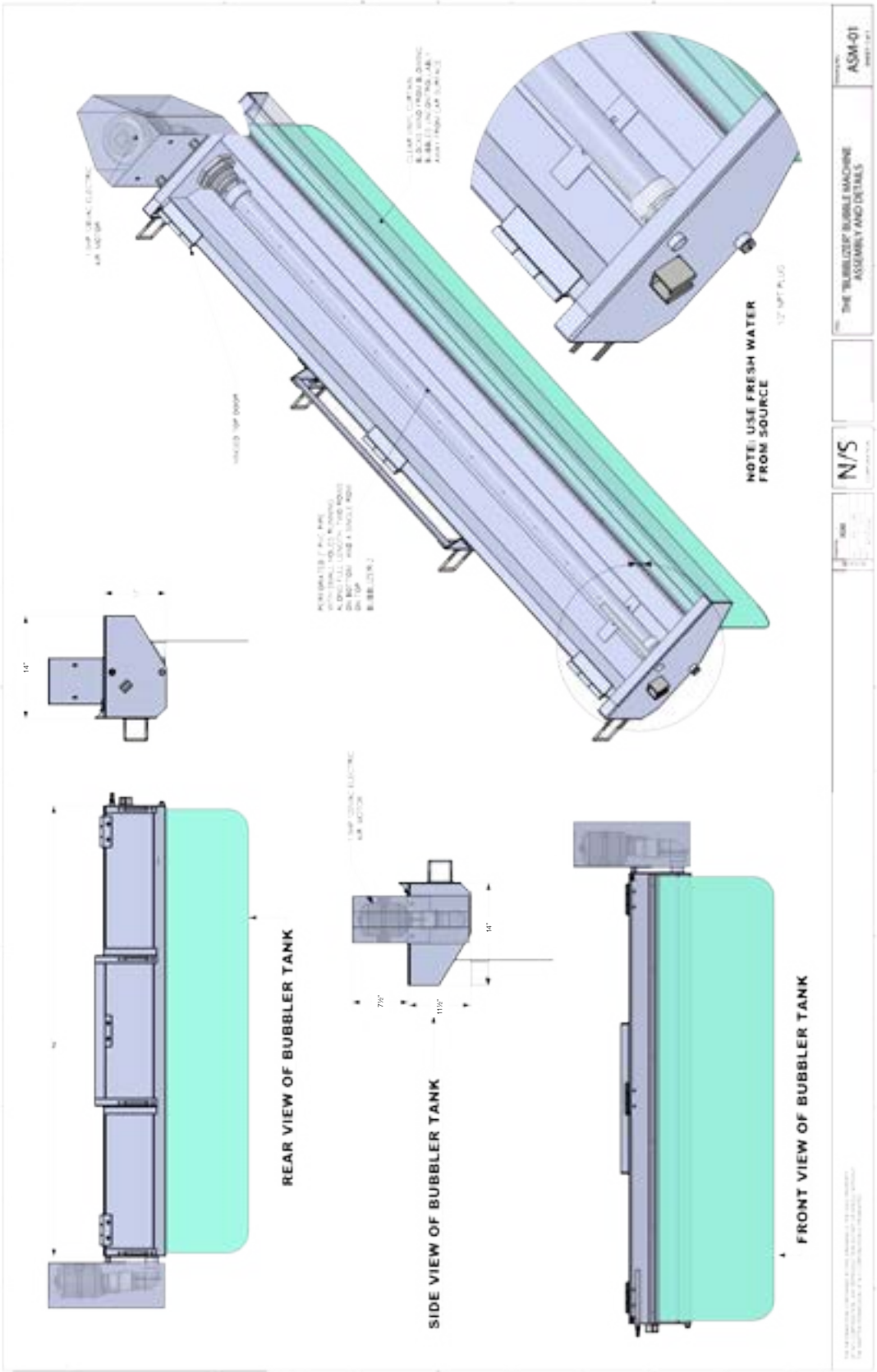
Bubblizer™ Tank
Isometric Views



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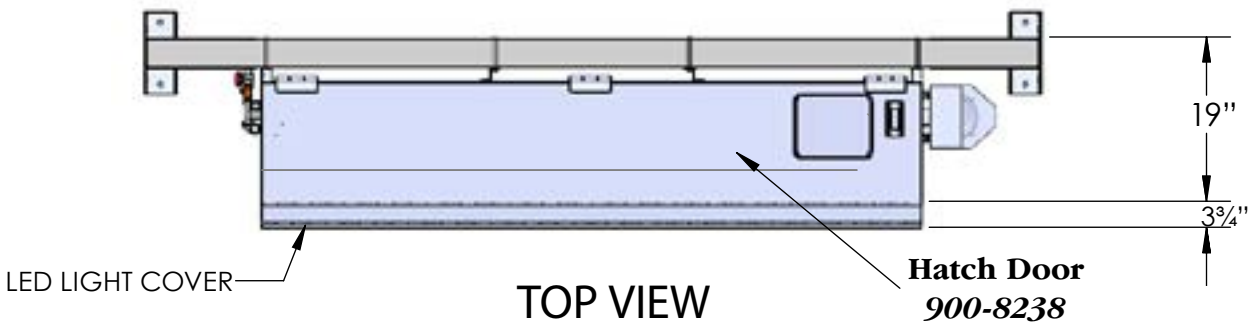
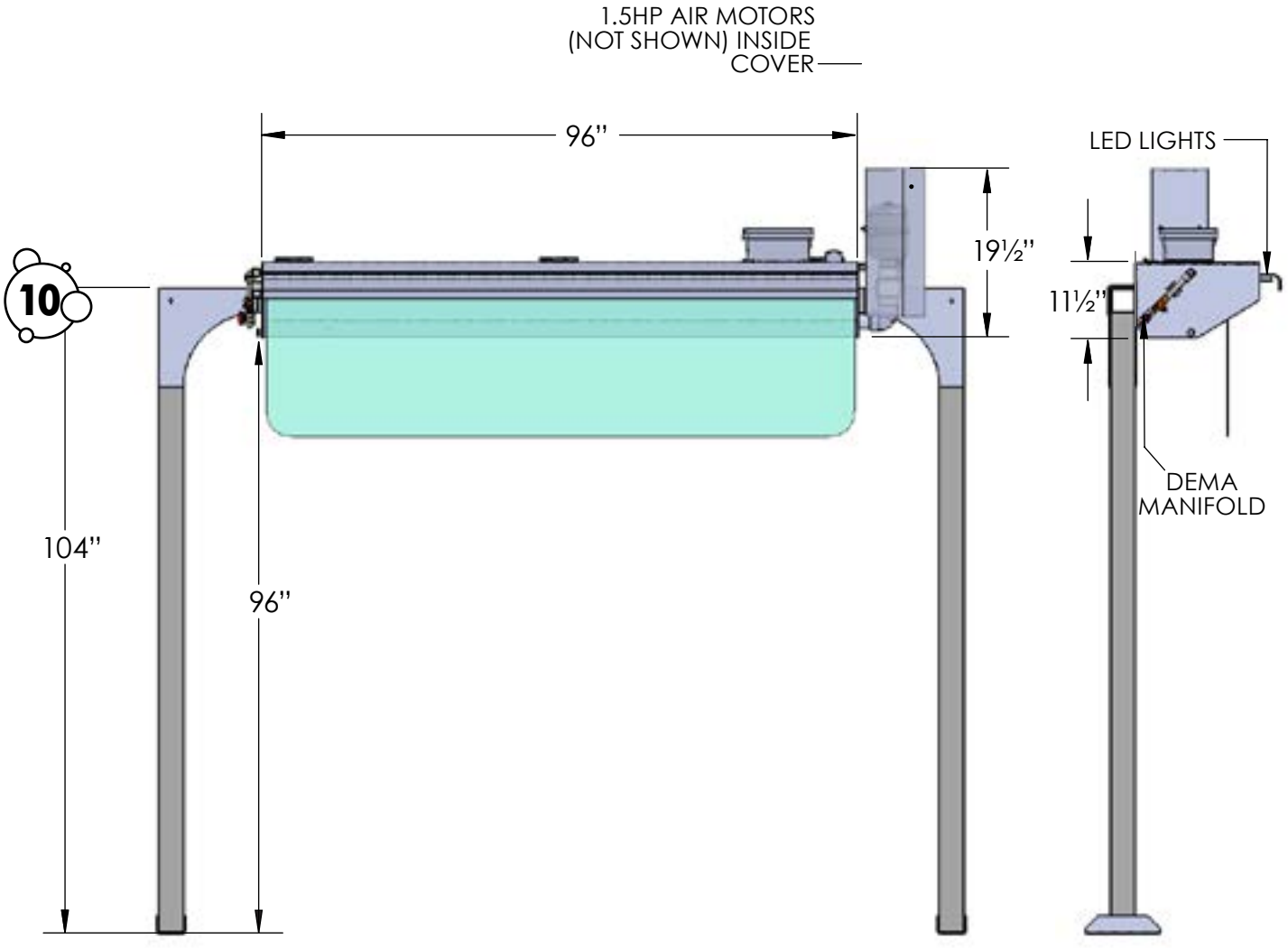
Wax Applicator
Orthographic Views



TOP VIEW



FRONT VIEW

END VIEW

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Bubblecano Signs
Optional

Lighted Top Volcano Graphic Sign
PN: BUBBLIZER-V

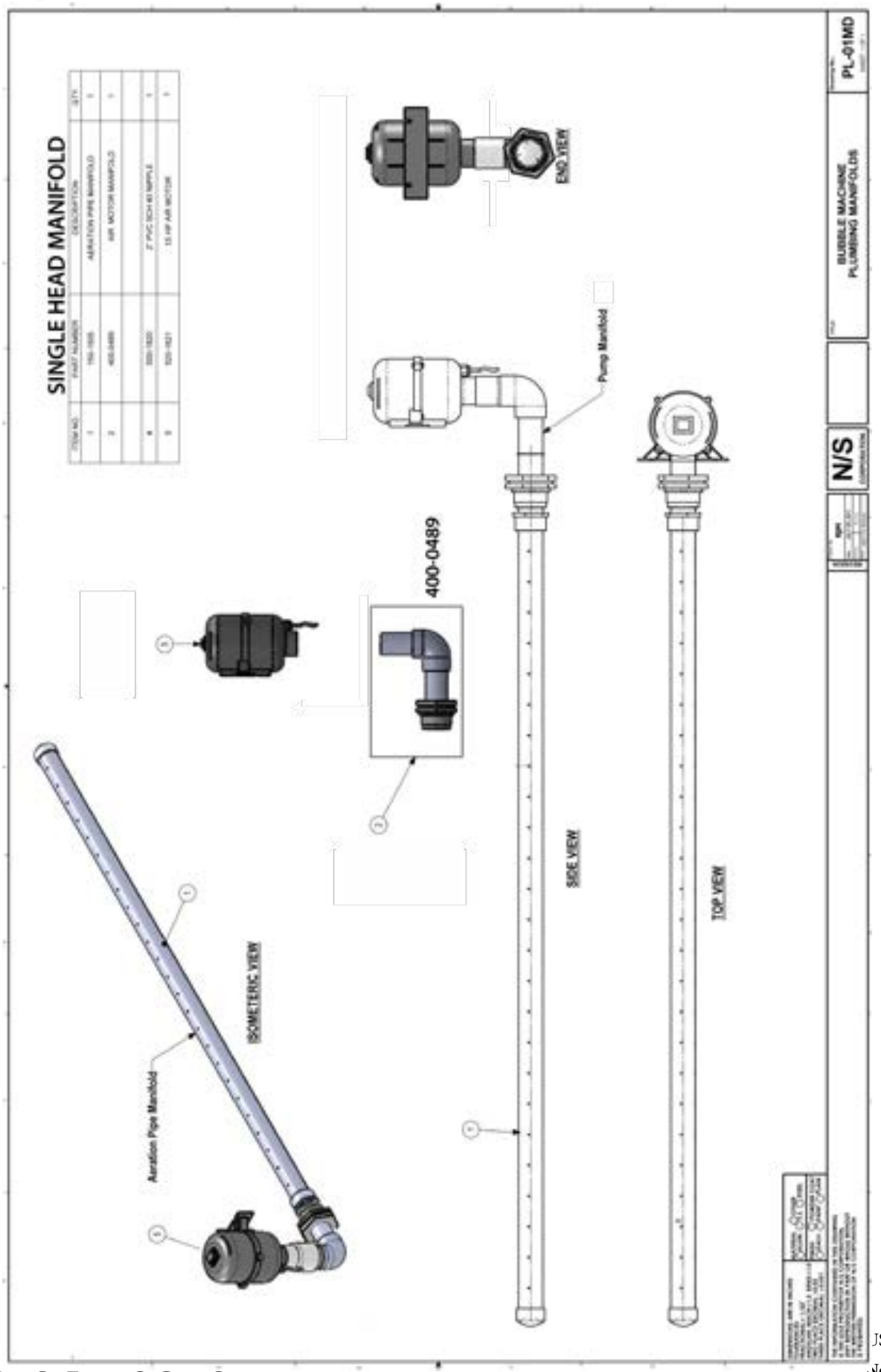
Lighted Word Bubblecano Sign
PN: BUBBLIZER-L

Bubble-Curtain
Light package
PN: BUBBLIZER-R

Lighted Driver Side
Bubblecano Sign
PN: BUBBLIZER-D

Lighted Passenger Side Bubblecano Sign
PN: BUBBLIZER-P

Plumbing Manifolds
Orthographic Views



12

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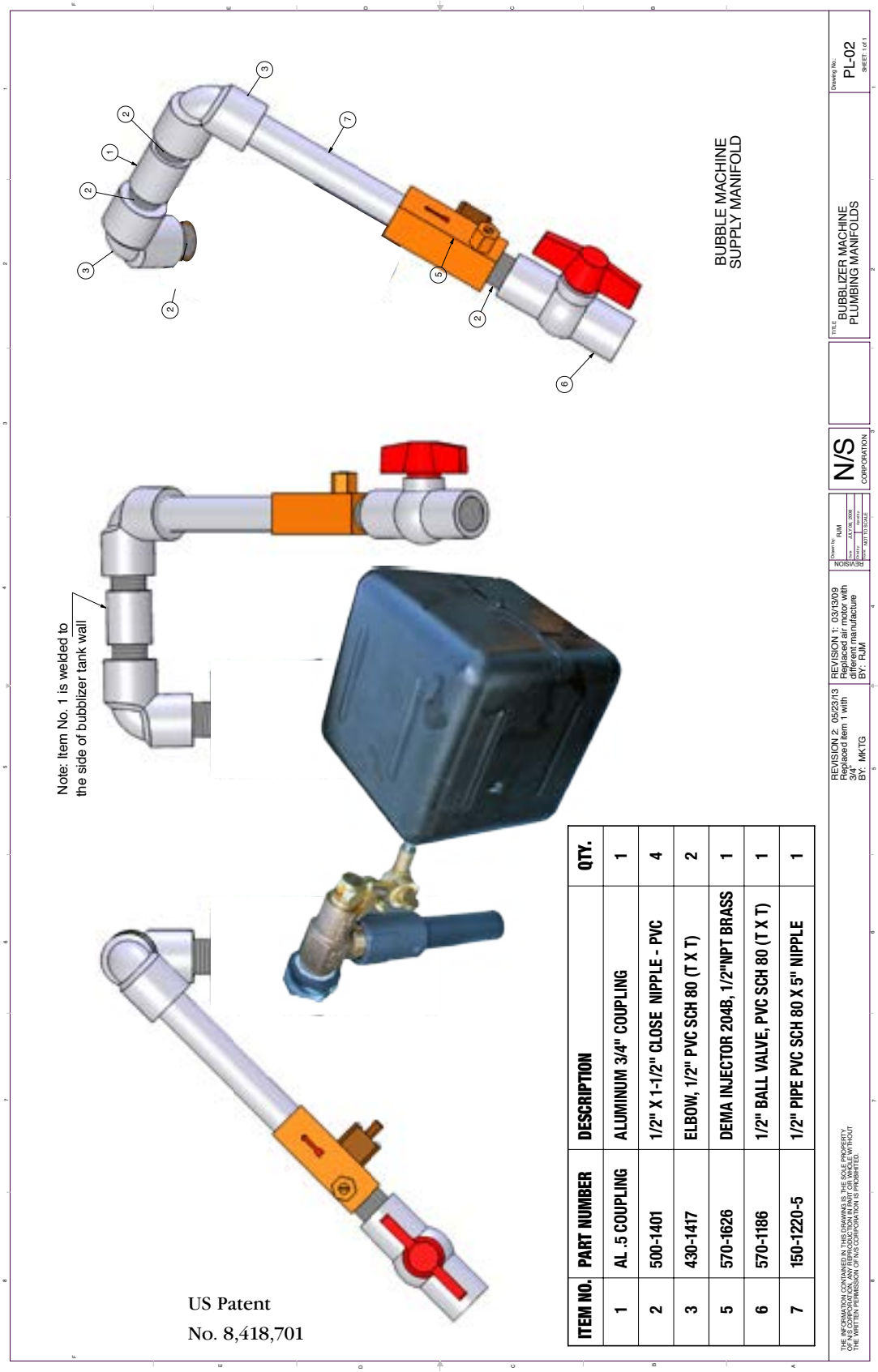
No. 8,418,701

Plumbing Manifold
Float Switch


BUBBLE MACHINE
SUPPLY MANIFOLD
Note: Item No. 1 is welded to
the side of bubblizer tank wall
US Patent
No. 8,418,701
ITEM NO. | PART NUMBER | DESCRIPTION | QTY.
1 | AL .5 COUPLING | ALUMINUM 3/4" COUPLING | 1
2 | 500-1401 | 1/2" X 1-1/2" CLOSE NIPPLE - PVC | 4
3 | 430-1417 | ELBOW, 1/2" PVC SCH 80 (T X T) | 2
5 | 570-1626 | DEMA INJECTOR 204B, 1/2"NPT BRASS | 1
6 | 570-1186 | 1/2" BALL VALVE, PVC SCH 80 (T X T) | 1
7 | 150-1220-5 | 1/2" PIPE PVC SCH 80 X 5" NIPPLE | 1
REVISION 2: 05/23/13
Replaced item 1 with
3/4"
BY: MKTG
REVISION 1: 03/13/09
Replaced 1" nipple with
different manufacture
BY: RJM
REVISION
Drawn by: RJM
Date: XX/XX/XXXX
Check:
Part: NOT TO SCALE
N/S
CORPORATION
TITLE: BUBBLIZER MACHINE
PLUMBING MANIFOLDS
Drawing No.: PL-02
SHEET 1 of 1
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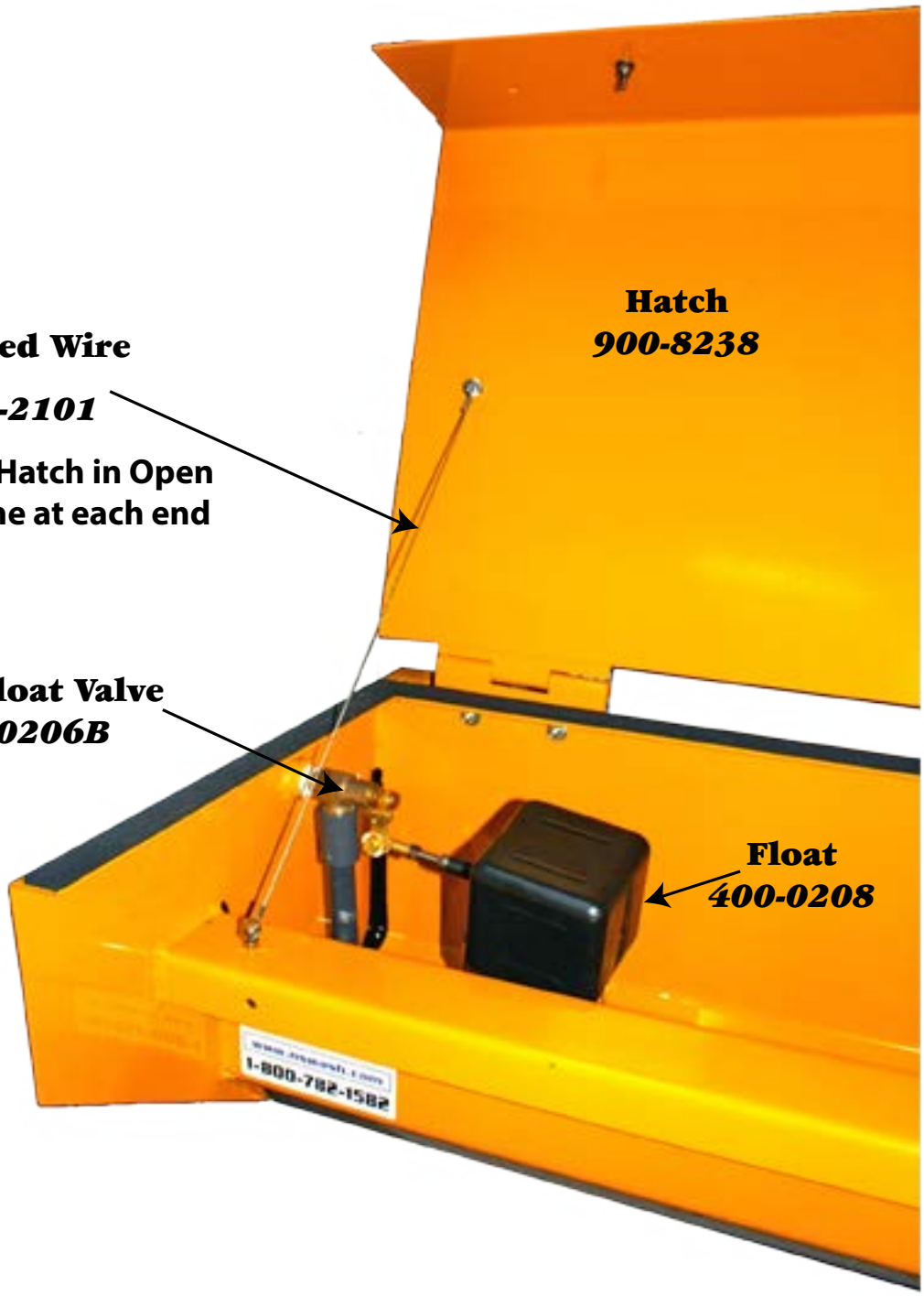
Top Hatch-Restraint
Pictures



DEMA Injector
Detergent Injection

Inline Chemical Injectors for injecting fluids or air into lines conveying liquid under pressure.

The DEMA injector is a jet pump. A liquid under pressure, usually water, enters the injector and accelerates into a jet through the nozzle. This high velocity jet creates a vacuum, which causes fluid to be drawn through the suction tube and into the injector. The mixture then flows into a diverging (venturi) passage where pressure is recovered as the flow slows down. A portion of the energy of the water is imparted to the injected fluid so the reconverted pressure cannot be as high as the pressure supply. In effect the fluid is pumped into the water line; the reduction in pressure reflects the energy required to operate the "pump". A minimum 35% pressure drop is required to create the vacuum.

Advantages of the Injector

Injectors have no moving parts, nothing to wear out or lubricate, resulting in extremely low maintenance. They are compact, needing no foundation or mounting bracket, and can be installed in any position. Injectors require no wiring, are self-priming and need no bleeding or filling. Injection rate is simple to set and can be quickly adjusted during operation. There is nothing to drain for seasonal shut down.

General Information

Standard C series have a molded Ryton knob with a stainless steel metering screw.

For special requirements add the following suffixes to the model number.

P: Special C20 stainless steel metering screw for highest corrosion resistance.

S: Stainless steel knob for high pressures (over 700psi).

T: Uses metering tip kit.

All injectors have a check valve to prevent back flow into the fluid container when there is no water flowing or while rinsing. An 8 ft. length of flexible vinyl suction tubing with a foot strainer is supplied.

Application and Selection

DEMA injector selection must be based on the water flow and pressure at the location where the injector is to be installed. DO NOT size the injector by pipe size. If these quantities are known, choose correct model from Tables. If theses quantities are not known, it is permissible to use spray nozzle rating at any pressure for selection. Once an injector has been matched to a spray nozzle system, it will continue to function regardless of fluctuations in line pressure, as the water flow will also fluctuate in proportion. Flow rating of 40 psi is the basis of the spray nozzle numbering system see glossary on and is, therefore, most frequently used. Lengthy piping, hose, or other restrictions resulting in pressure loss must be added to the rated pressure before selection.

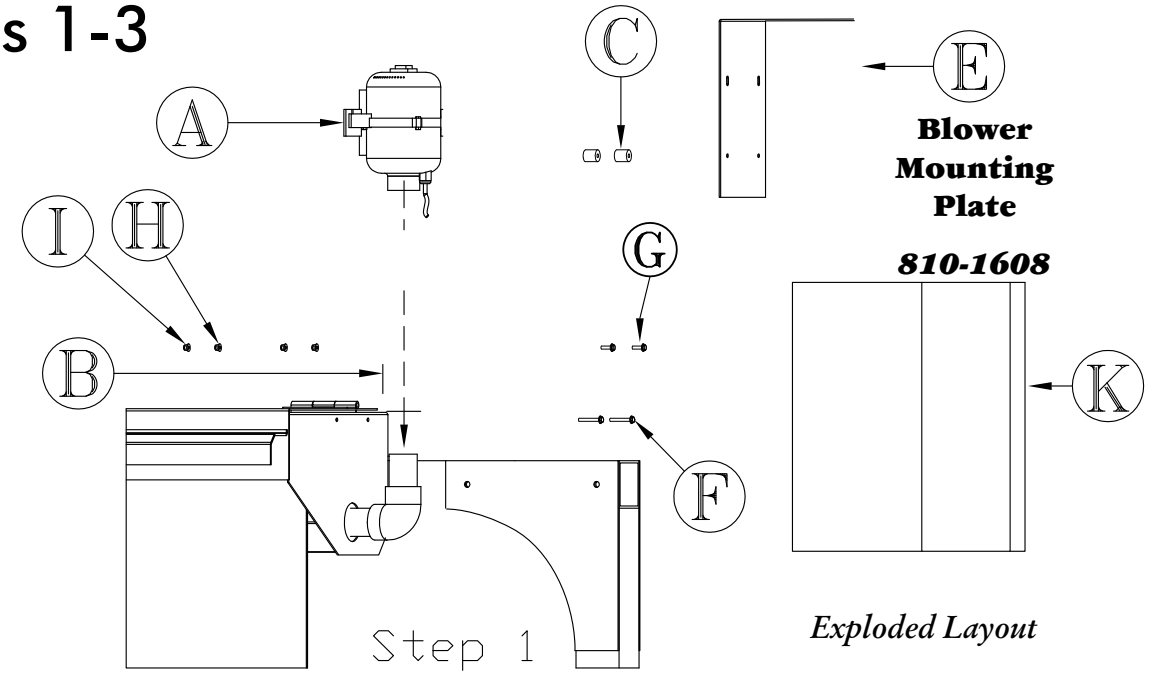
Injection Capabilities

Every injector is supplied with a metering screw or metering tips (T) for setting injection rates within maximum and minimum capacities shown in Tables. Maximum injections of viscous fluids (above 75cps) can be increased by ordering the high induction metering knob kit, p/n 24-56.

NOTE: Three nozzle bushings are supplied with each C series injector for precise sizing of the injector to water flow within the ranges shown. The maximum injection quantities can be doubled by using a nozzle bushing one size smaller than specified, but the pressure loss will be 50%. If your flow is in the lower third of the GPM range, order the next smallest injector to double the injection rate.

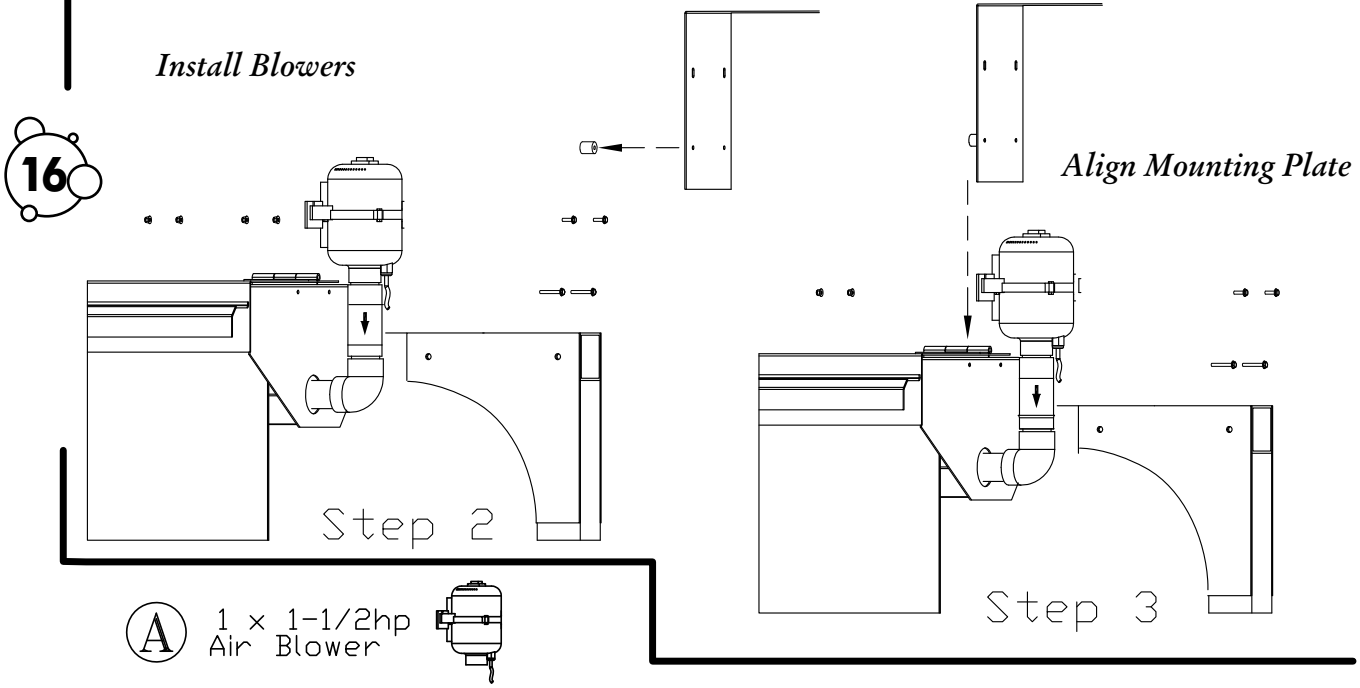
Air Blower Assembly

Steps 1-3



Exploded Layout

Install Blowers



Align Mounting Plate

16

A 1 x 1-1/2hp Air Blower

C 2 x Spacer

E 1 x Blower Mounting Plate

Required Parts

F 2 x 1/4" X 1-1/2" Bolt

G 2 x 1/4" X 1" Bolt

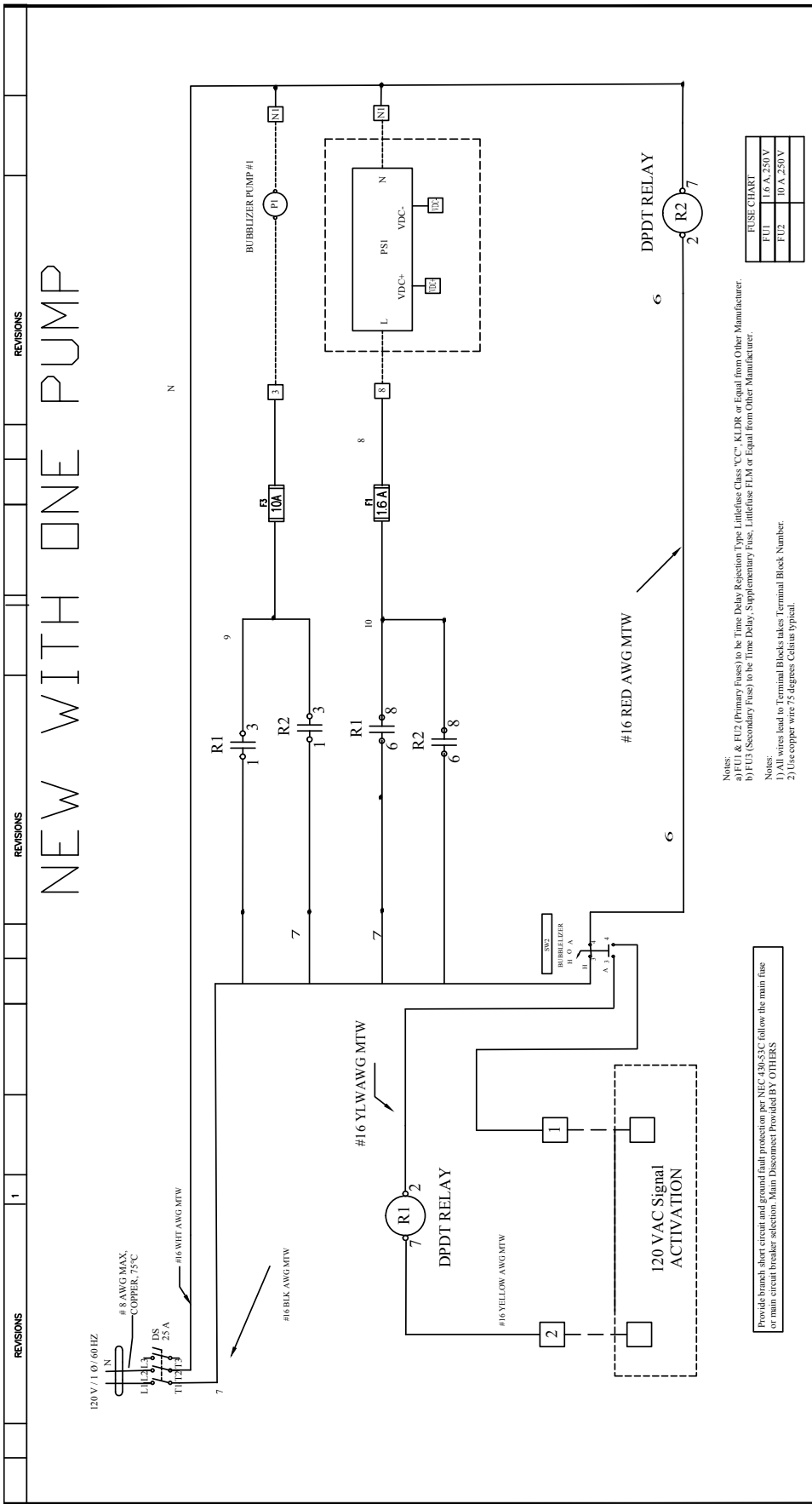
H 8 x 1/4" Washer

I 4 x 1/4" Lock Nut

K 1 x Cover

Electrical Schematics

Sheet 1


NEW WITH ONE PUMP
REVISIONS
120 V / 1 Ø / 60 HZ
8 AWG MAX. COPPER, 75°C
#16 WHT AWG MTW
#16 BLK AWG MTW
#16 YELLOW AWG MTW
#16 YLW AWG MTW
#16 RED AWG MTW
DS
25 A
BUBBLIZER PUMP #1
P1
F3
10A
F1
16 A
R1
R2
DPDT RELAY
120 VAC Signal ACTIVATION
SW2
BUBBLIZER
H O A
PSI
VDC+
VDC-
Manufactured by
NS CORP Corporation
NS CORP. JOB NO.: XXXXX
NS CORP JOB NAME: NS-BUBBLIZER
NS CORP. PART NO.: CP-AHW-120-4
DR. BY AR DATE 8/20/12
CHK. BY NS DATE 10/02/12
APP. BY AR DATE 8/20/12
SCHEMATICS
SHEET 1 OF 3
FUSE CHART
FU1 1.6 A, 250 V
FU2 10 A, 250 V
Notes:
a) FU1 & FU2 (Primary Fuses) to be Time Delay Rejection Type Littlefuse Class "CC", KLDR or Equal from Other Manufacturer.
b) FU3 (Secondary Fuse) to be Time Delay, Supplementary Fuse, Littlefuse FLM or Equal from Other Manufacturer.
Notes:
1) All wires lead to Terminal Blocks takes Terminal Block Number.
2) Use copper wire 75 degrees Celsius typical.
Provide branch short circuit and ground fault protection per NEC 430-53C follow the main fuse or main circuit breaker selection. Main Disconnect Provided BY OTHERS
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17

US Patent No. 8,418,701

Layout BOM

ITEM	TAGS	QTY	CATALOG	NS PART #	MFG	PRODUCT DESCRIPTION
1	ENC	1	HJ1008HWLG	320-1069	HOFFMAN	Enclosure, Fiberglass 10x8x6 type 4x
2	ENC	1	A10P8	320-1070	HOFFMAN	Back Panel 10 * 8
3	SW	2	HW1S-3FT20	240-4143	IDEC	Switch, 3 way type 4
4	DS	1	HWIIP-LBRH4	260-1237	SIEMENS	Disconnect, Switch with handle and shaft 25amp type 4x
5	TMR BLK	2	5AB WA01-1DF1	240-0029	SIEMENS	Block, Teminal End
6	END BLOCK	2	1492-EAJ35	810-1566	SIEMENS	TERMINAL BLOCK END
7	FU1	1	GGM 1.6		FERRAZ SHAWMUT	Fuse, Time delay Reject type 1 1.6 amp
8	FUSE BLOCK	1	8WA1011-15F12		SIEMENS	Fuse Block Holder
9	FU2	1	ATDR10	360-0020	FERRAZ SHAWMUT	Fuse, Time delay Reject type 10 amp
10	FUSE HOLDER	1	KCCFPX2R	360-1119	FERRAZ SHAWMUT	FUSE HOLDER (CCHCC1D) MODULAR GLOBAL BUSSMAN
11	RELAY BASE 1, 2	2	SIE3TX71444E2		SIEMENS	Base, Relay 8 pin
12	RELAY 1,RELAY 2	2	3TX71121DF13C		SIEMENS	Relay, 8 pin 120vac DPDT
13	GND LUG	1	T2	840-3022	QSD	Ground Single, Lug
14	GND BAR	1	PK4GTA		SQD	Ground Bar, 4 terminal
15	WIREWAY	1	F102LG6	240-0011	PANDUIT	Wireway, Light Gray 1x2
16	WIREWAY	1	C1LG6	240-0011-C	PANDUIT	Wireway, Light Gray 1x2 cover
17	TMR BLK	8	8WA1011-1DH11	240-0073	AD	Block, Grey Terminal
18	DIN RAIL	2	149DR1	810-1567	AD	Rail, Din 35 mm

REVISIONS | REVISIONS | REVISIONS

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NS CORP. JOB NO.: XXXXX
NS CORP JOB NAME: SN_STANDARD
NS CORP. PART NO.: CP-BUBBLIZER-120-4

DR. BY AR DATE 08/24/12
CHK. BY SN DATE 08/24/12
APP. BY DS DATE 08/24/12

Manufactured by
NS CORP Corporation

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BILL_OF_MATERIAL | SHEET 3 OF_3

Optional LED Kit
For RGB Changing Lights

1 *Specifications*

Working temperature :-20~60ºC
Supply voltage: DC 5~24V
Product size: L 210 x W 40 x H 30 mm
Package size: L 215 x W 45 x H 35 mm
Changing mode: 29 modes
Remote distance: >=100m
Color depth: Max.256 level per RGB.
Bright adjust: 8 levels
Speed adjust: 8levels
Net weigh: 200g
Gross weight: 230g
Output: Three CMOS drain-open output
Max output current: 8A per channel

NOTE:
*When **programing more than one** unit in a tunnel, **Turn off power** on all units **except** the one being programed to avoid sending commands to other units.*

Optional LED Kit

Modes

2 *Features*

- Controlled by remote controller .
- Input Voltage range: DC 5~24V
- 3-channel RGB full color control, max output current 8A per channel.
- 29 modes of changing, such as static, gradual, jumpy etc., with color depth max 256 levels per RGB.
- Speed and brightness of each mode is adjustable separately from 1-8 levels.
- Can rest at current color and color depth.
- Can restore to default settings by pressing RESET button.

3 *The function of each button is as follows:*

Button "ON/OFF": Turn on/off the controller.
Button "PAUSE/2": Keep current status, press it again, keeps changing
Button "MODE+/M+/3": Enter the next mode.
Button "MODE -/M -/4": Return to the previous mode.
Button "BRIGHT/B/6": Adjust LED brightness levels. (1~8 levels)
Button "SPEED/S/5": Speed up/down color changing. (1~8 levels)
Button "RESET": Restores default status if pressed over 3 seconds.

4 *Modes*

No.	Status	No.	Status
1	Static Red	16	White Stroboscopic-changing Changing
2	Static Green	17	Tri-color Gradual changing
3	Static blue	18	7-color Gradual changing
4	Static Yellow	19	Red-green gradual changing
5	Static Purple	20	Green-blue gradual brighten & fade
6	Static Cyan	21	Red-blue gradual brighten & fade
7	Static White	22	Red gradual brighten & fade
8	Tri-color Jumpy Changing	23	Green gradual brighten & fade
9	7-color Jumpy Changing	24	Blue gradual brighten & fade
10	Red Stroboscopic-changing	25	Yellow gradual brighten & fade
11	Green Stroboscopic-changing	26	Purple gradual brighten & fade
12	Blue Stroboscopic-changing	27	Cyan gradual
13	Yellow Stroboscopic-changing	28	White gradual
14	Purple Stroboscopic-changing	29	Modes Cycle
15	Cyan Stroboscopic-changing Changing		

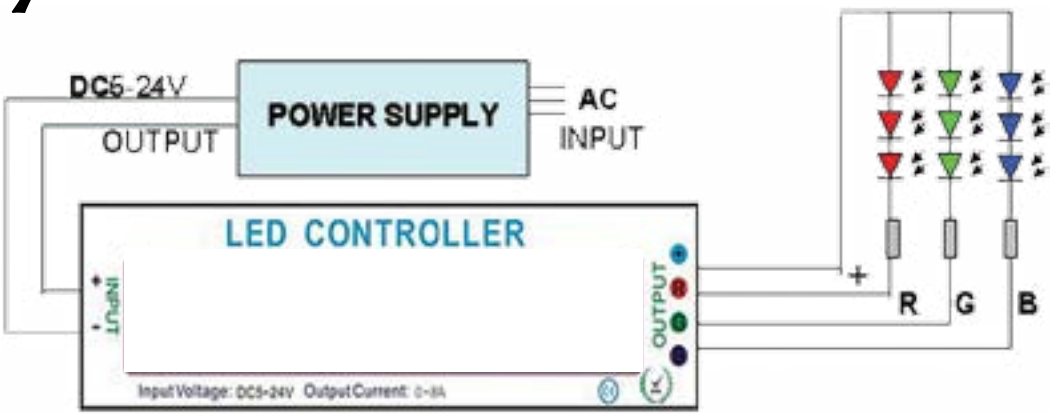
5 *Advantages:*

- Matched with the RGB flexible strip, easily control the colors.
- Color modes: Multi function, 29 kinds of color changing modes.
- When changing color modes such as 3/7 color gradual/ jumpy changing, the speed and the brightness are adjustable in 1 to 8 step levels.
- In single color modes: the brightness is 1-8 steps level adjustable
- Press the button Pause to keep the current color
- Wide voltage input: 5V-24V DC
- Memory function: when you turn off the power supply, the controller can remember the modes, you do not need to choose the modes again.

6 *Safety Information:*

- Please don't install this controller in lightning, intense magnetic, humid and high-voltage fields.
- To reduce the risk of component damage and fire, make sure connections are correct with no short circuits before connecting to power .
- Check if the voltage and power adapter suit the controller and if anode or cathode definition is the same as the controller's.
- If device has been damaged during transport, don't take any action without contacting your supplier. If being used properly in accordance with the instruction, and quality problems occur, please contact local supplier too, we provide free repair or replacement services.

7 *Connection Diagram*



Chemical Metering Board
DEMA MixRite 57 250:1

NS WASH SYSTEMS

DEMA MixRite
500 Series Click Chart

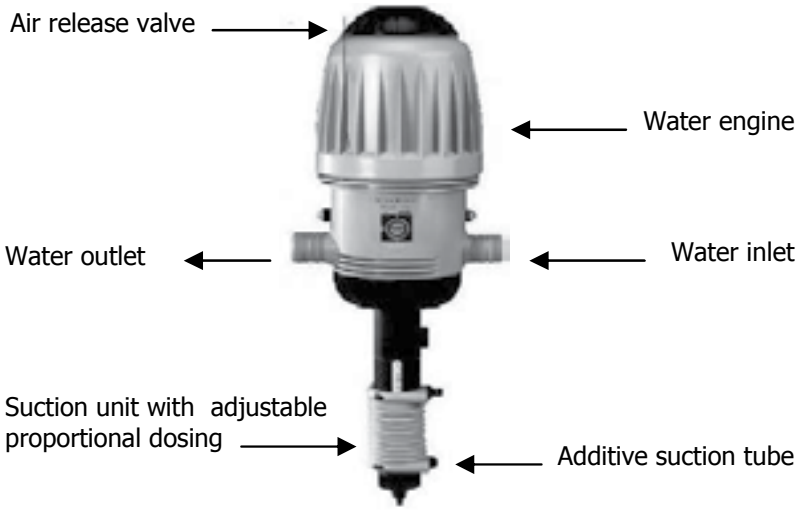
Click Chart			
1 Click is .06 Gallons		1 Gallon is 16 Clicks	
Clicks	Gallons	Gallons	Clicks
1	0.06	0.25	4
2	0.12	0.5	8
5	0.31	1	16
10	0.61	1.25	20
15	0.92	1.5	24
16	0.98	1.75	29
20	1.23	2	33
24	1.47	2.5	41
30	1.84	3	49
35	2.15	3.5	57
40	2.45	4	65
45	2.76	4.5	73
50	3.07	5	82
60	3.68	5.5	90
75	4.60	6	98
90	5.52	6.5	106
105	6.44	7	114
120	7.36	7.5	122
135	8.28	8	130
150	9.20	9	147
160	9.81	10	163
175	10.73	11	179

Common Injection Chart		
Percentage	Ratio	Oz/Gallon
0.10%	1000:1	0.13
0.25%	400:1	0.32
0.33%	303:1	0.42
0.50%	200:1	0.64
0.66%	152:1	0.84
0.75%	133:1	0.96
0.80%	125:1	1.02
0.90%	111:1	1.15
1.00%	100:1	1.28
1.20%	83:1	1.54
1.30%	77:1	1.66
1.40%	71:1	1.79
1.50%	67:1	1.92
1.60%	63:1	2.05
1.70%	59:1	2.18
1.80%	56:1	2.30
1.90%	53:1	2.43
2.00%	50:1	2.56
2.25%	44:1	2.88
2.50%	40:1	3.20
2.75%	36:1	3.52
3.00%	33:1	3.84
3.50%	29:1	4.48
4.00%	25:1	5.12
4.50%	22:1	5.76
5.00%	20:1	6.40
6.00%	17:1	7.68
7.00%	14:1	8.96
8.00%	13:1	10.24
9.00%	11:1	11.52
10.00%	10:1	12.80

DEMA MixRite
Proportional Injector

MixRite®

The MixRite is powered by water flow, with minimal loss of pressure. The water engine powers the proportioning unit. No external power is required.
The proportioning unit injects liquid additives in direct relation to the amount of water that passes through the motor and injects the additives into the water system.
The water engine action:
The suction and proportioning unit is built from a piston connected to the water engine, from which it derives its movement. The piston moves within a cylinder with a non-return valve. The movement of the piston within the cylinder causes the water to be injected with the required liquid additive to be drawn through a hose inserted into a container. It is possible to regulate the supply ratio between the additive and the water passing through the injector in models: 570(CW/CL/PVDF),572(CW/CL/PVDF),574CL, 571(CW/CL/PVDF),573(CW/CL/PVDF),575CL.
In model 571 Green the dosing is predetermined and can not be changed.
In models 576IN, 578IN, 577IN, 579IN the drawn additive is transferred through a inlet bypass directly into the main water line, without contact with the water engine.



DEMA MixRite
Specifications

- Accurate dispensing
- Uses only 10% (mid range) and 20% (maximum) of pressure to drive the pump
- No electricity required
- Low maintenance and easy to adjust

Specifications:

- Chemically Resistant Nylon - Fiberglass body
- All seals specifically designed to withstand harsh chemical additives.
- Easily replaceable wear parts.
- Extra Lip Seal Piston Kit included with each unit
- Higher operating range from 2.9 PSI to 120 PSI
- Optional Tip Kit, p/n 57-11-1 for dilutions from 750:1 to 2000:1. No special model needed
- Hose barbs with swivel for easy installation
- Injection from 300:1 to 1:10 (.3% to 10%)
- Flow rate from .09 to 11 gallons per minute
- Includes 7 ft. 3/8" inlet tubing with foot valve strainer
- Check Valve with Hastelloy spring
- 19 1/2" high, 7" wide

Part #	PSI	Ratio	Percent	Oz/Gal	Features	Applications
570CW	2.9 - 120	500:1 to 50:1	.3% - 2%	.38 to 2.5	Tip Kit Option	Carwash Cleaning Agents & Detergents
571CW	2.9 - 120	300:1 to 50:1	.3% - 2%	.38 to 2.5	Chemical On/Off, Tip Kit Option	Carwash Cleaning Agents & Detergents
572CW	2.9 - 120	250:1 to 25:1	.4% - 4%	.51 to 5.1		Carwash Cleaning Agents & Detergents
573CW	2.9 - 120	250:1 to 25:1	.4% - 4%	.51 to 5.1	Chemical On/Off	Carwash Cleaning Agents & Detergents
574CL	2.9 - 120	33:1 to 10:1	3% - 10%	3.8 to 12.8		Hydrofluoric acids, Tire Cleaners, Chlorine, and other harsh chemicals
575CL	2.9 - 120	33:1 to 10:1	3% - 10%	3.8 to 12.8	Chemical On/Off	Hydrofluoric acids, Tire Cleaners, Chlorine, and other harsh chemicals
570CL	2.9 - 120	300:1 to 50:1	.3% - 2%	.38 to 2.5	Tip Kit Option	Hydrofluoric acids, Tire Cleaners, Chlorine, and other harsh chemicals
571CL	2.9 - 120	300:1 to 50:1	.3% - 2%	.38 to 2.5	Chemical On/Off, Tip Kit Option	Hydrofluoric acids, Tire Cleaners, Chlorine, and other harsh chemicals
572CL	2.9 - 120	250:1 to 25:1	.4% - 4%	.51 to 5.1		Hydrofluoric acids, Tire Cleaners, Chlorine, and other harsh chemicals
573CL	2.9 - 120	250:1 to 25:1	.4% - 4%	.51 to 5.1	Chemical On/Off	Hydrofluoric acids, Tire Cleaners, Chlorine, and other harsh chemicals

Technical Data

MixRite operates in the following conditions:

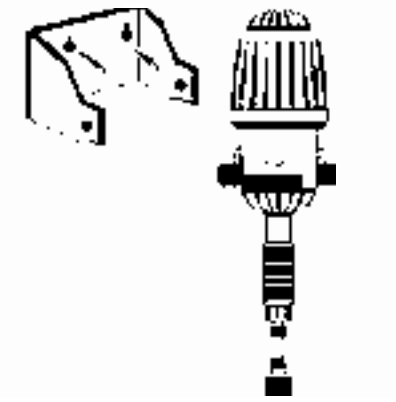
- From a minimum flow rate of 20 L/H (5.3 Gal/H) and up to 2,500 L/H (660 Gal/H)
- Temperature not lower than 4°C (39°F) and not higher than 40°C (104°F)
- Water pressure between 0.2 Bar to 8 Bar (2.9 to 120 PSI)

The additive may be added to the water flow according to the required dosing percentage:
0.3% to 2% in models: 570(CW/CL/PVDF), 571(CW/CL/PVDF), 576IN, 577IN.
0.4% to 4% in models: 572(CW/CL/PVDF), 573(CW/CL/PVDF), 578IN, 579IN.
3 % to 10% in models: 574CL,575CL
Fixed dosage 0.8 % in models: 571 Green

Water pressure loss:
Pressure loss in the lower flow rates 0.1 Bar and in the higher flow rates up to 1 Bar.
Models with 0.3%-2%: from 0.1 Bar up to 1 Bar in proportion to the water flow
Models with 0.4%-4%: from 0.2 Bar up to 1.2 Bar in proportion to the water flow
Models with 3%-10%: from 0.5 Bar up to 1.8 Bar in proportion to the water flow
The MixRite inlet and outlet are ¾" BSPT male thread.
The additive tank should be placed beneath the MixRite.

Mounting the MixRite

1. Prepare the MixRite site.
   - The MixRite intake and outlet must reach the intake and outlet pipes.
   - The MixRite must be positioned above the liquid additives container.
2. Screw the MixRite bracket onto a wall or any stable vertical base.
3. Press the MixRite onto the bracket. The nipples on the MixRite must click into the holes in the side of bracket.

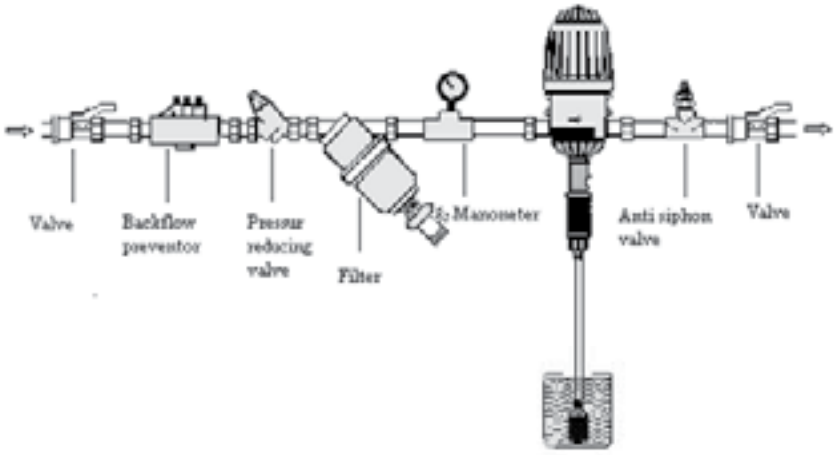


Installation of the MixRite

Installing the MixRite on a Direct Line (in line)

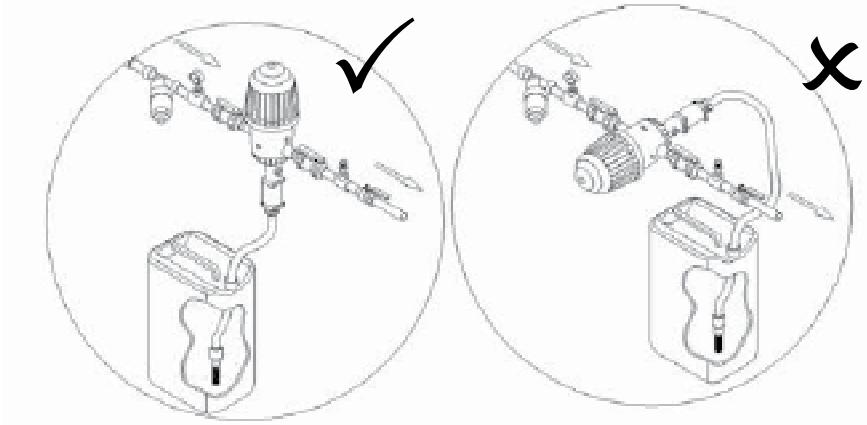
1. Install onto the water line using swivel connectors and ensure that the water flows into the MixRite in the direction indicated by the arrows printed on the MixRite.
2. Install a 50-75 mesh (250-300 micron) filter between the valve and the injector intake.
3. Valves have to be installed at the water line entry and exit; in order to stop the pump's action – you should close the Valve at the entry point.
4. Position the drawing pipe into the additive container. Ensure that the suction pipe filter is set several millimeters above the container's bottom. Check to ensure that the suction pipe is not bent or folded.

Install the MixRite on a Direct Line (In Line)



Correct Installation

Incorrect Installation

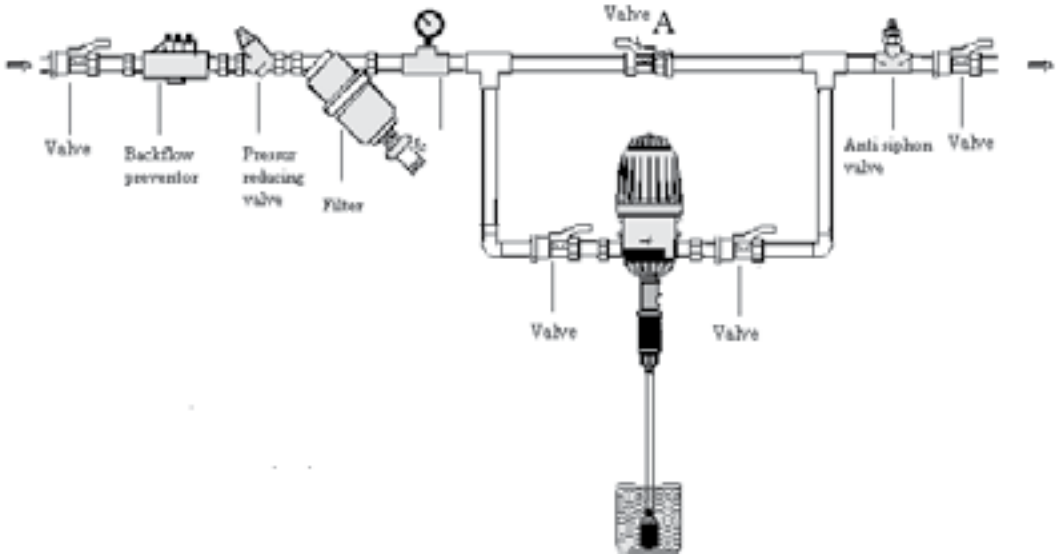


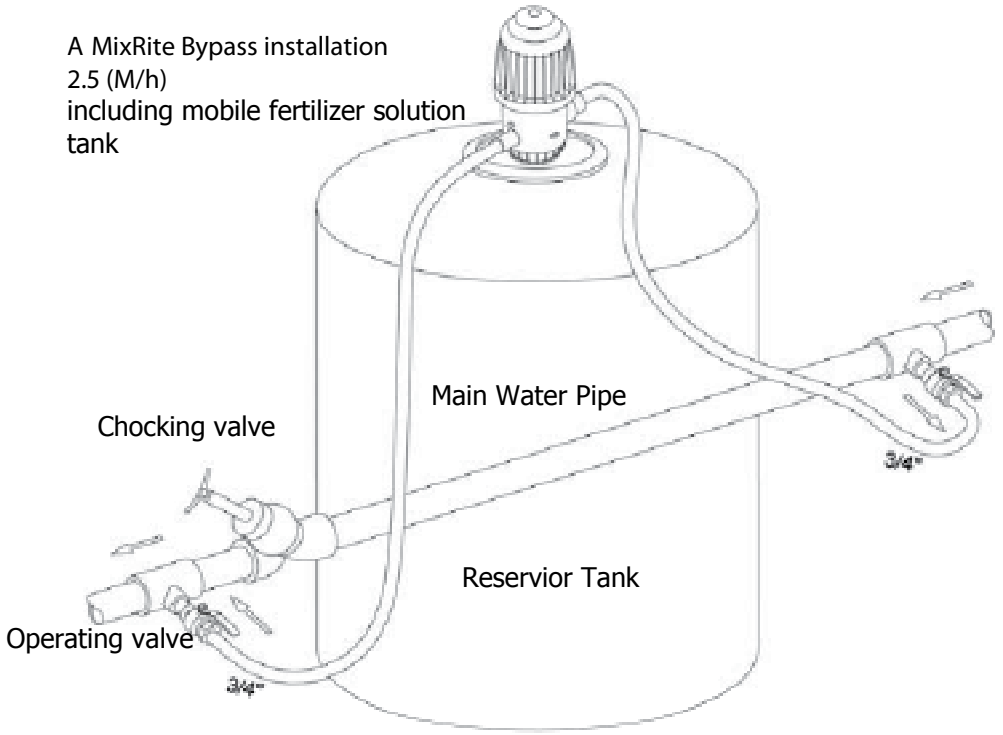
Installing the MixRite on a Bypass line (off line)

Where water is supplied at a higher flow rate, than the working flow rate of the injector or where the injector isn't needed for continuous operation, the MixRite must be installed on a bypass line. The bypass provides the possibility to close the operation of the injector while water continues to flow through the line.

1. Install onto the water line using swivel connectors and ensure that the water flows into the MixRite in the direction indicated by the arrows printed on the MixRite.
2. Install a 50-75 mesh (250-300 micron) filter between the valve and the injector intake.
3. Valves have to be installed at the bypass entry and exit and on the main water line.
4. Position the liquid additive container beneath the injector. Check to ensure that the suction pipe is not bent or folded. Position the drawing pipe into the additive container. Ensure that the suction pipe filter is set several millimeters above the container's bottom.

Install the MixRite on Bypass Line (Off Line)





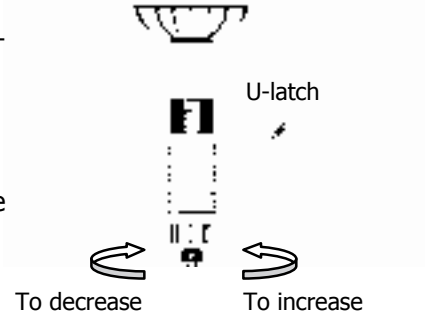
Adjusting the MixRite

Every stroke of the MixRite moves a predetermined volume of water with a predetermined volume of liquid additive.
To adjust the volume of the liquid additive in models 570(CW/CL/PVDF), 572(CW/CL/PVDF), 571(CW/CL/PVDF), 573(CW/CL/PVDF), 576IN, 578IN, 577IN, 579IN:

1. Remove the upper U–latch from the Proportioning Lock Nut.
2. Preset the amount of additives according to the Percentage to Water Scale that is found on the proportioner.
   - Turn the proportioning Adjuster counter clock-wise to increase the amount of additives.
   - Turn the Proportioning Adjuster clock-wise to decrease the amount of additives.

   The marking on the scale indicates the % of additive out of the total water flowing through the injector.
3. Turn the proportioning Adjuster slightly, until the U-latch holes of the Proportioning Lock Nut align with the notches in the proportioner.
4. Push the U-latch into the U-latch holes of Proportioning Lock Nut until it is firmly in place.

In models 574CL, 575CL there is no U-latch and the adjustment is done by turning the adjustment sleeve to the desired %.
In models 571 Green there is no possibility to adjust the dosing percentage it is predeterment by the injector model (see page 3)



DO NOT REMOVE THE LOWER U-LATCH !!!
(For maintenance purpose only)

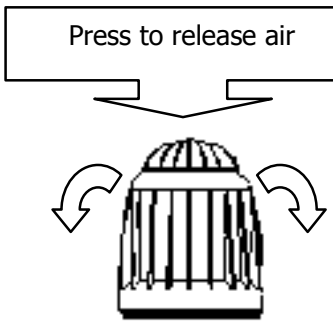
Rinsing and Cleaning the unit

After pumping
- Rinse the unit by pumping clean water from the additives container.
- Wash the external surface of the unit with clean water.

Warning: During pumping, ensure that the additive container is not completely empty.

Air-release Valve

In models: 571 Green, 570(CW/CL/PVDF), 572(CW/CL/PVDF), 574CL, 576IN, 578IN.
After initial operation of the MixRite, apply pressure to the cap (the air release valve) for several seconds to open valve that allows trapped air to escape. This air release is accompanied by a slight loss of water. Release the pressure on the cap to close the valve.



Air is released with a small amount of water

On/Off System

In Models: 571(CW/CL/PVDF), 573(CW/CL/PVDF), 575CL, 577IN, 579IN.
ON position – the Knob should be in its high position, the injector is working & pumping.
OFF position – The knob is turned and pushed down to the cap, the water flow the injector continuous without the pumping action.
To Turn the dosage unit off and allow the free flow of water through the MixRite:
A: The handle must be turned and pushed in so that it is in the close state.(see 1).
To Turn the dosage unit on and allow the pumping action MixRite:
B: The handle must be turned and pulled out so that it is in the opened state. (see 2).

Diagram 1 Diagram 2

In injectors with On/Off knob there is no air-release valve.
It is highly recommended to use the On/Off knob when the additive container is empty or there is no need at all in the additive but the water flow should continue.

DEMA MixRite
Troubleshooting

Troubleshooting

Problem	Check	Solution
MixRite does not operate	Check that the intake and outlet valves are open	Open the valve
	Check that the water filter isn't clogged	Clean the filter
	Check that water is flowing in the line	Open main and outlet valve
	Check that springs are not broken Open pump lid & remove piston	Change the broken spring
	Check that cylinder is not scratched	Change cylinder
	Check that piston seals are not damaged	Change the seals
MixRite does not draw	Dismantle the suction pump and check the suction seal for damage	Change the suction seal
The MixRite makes scratching noises	Check if there is liquid in the additive container	Add liquid to the container
	Check if suction pipe is immersed and not folded	Straighten or change the pipe
	Check suction filter to see if it is blocked and if it is immersed in the additive tank	Clean and rinse suction filter, Fill liquid into tank to cover filter

Correct installation will prevent damages and malfunctions of the MixRite

It is strongly recommended to install a back flow preventor before the injector on the main water line.
A vacuum release unit should be installed at the outlet of the MixRite in order to prevent undesired suction of additive when the water line is draining.

A master valve must be installed before the injector, to be opened only for the operation of the injector to prevent water hammer damage to the injector.

NS WASH SYSTEMS
www.nswash.com

Standard Manufacturer's Limited Warranty

Government and rental divisions

EXPRESSED WARRANTY: N/S Corporation's manufactured vehicle wash equipment is guaranteed for one (1) year commencing the first day following installation, or thirty (30) days from the original invoice date, which ever occurs first. Equipment not manufactured by N/S Corporation and electrical parts are guaranteed for ninety (90) days. The equipment is guaranteed against manufacturing defects on material and workmanship, which develop in the service for which it was designed, provided that the equipment is installed and used in accordance with all applicable instructions and limitations as issued by N/S Corporation.

Pursuant to the above expressed warranty, N/S Corporation at its sole discretion, will repair goods or replace defective materials, free of charge excluding labor, provided that such goods or materials are returned as specified by N/S Corporation.

N/S Corporation does not warrant: (1) transportation, installation, adjustment, or other expenses which may arise in connection with such equipment or parts; (2) site related/ operation based problems; (3) damage due to accident; (4) damage due to misuse, negligence, or overloading; (5) lack of proper maintenance; or (6) maintenance items, including but not limited to lubricating grease/oils, filters, cloth, materials, bearings, rollers, etc. nor any items therein which show signs of neglect; (7) damage due to non-N/S equipment or unauthorized personnel. Repairs and service provided by unauthorized N/S personnel voids warranty.

LIMITED LIABILITY: N/S Corporation shall not be liable (1) for any incidental, special, consequential, or exemplary damages; (2) for commercial loss; (3) for inconvenience; or (4) for any service not expressly provided for herein related to or arising from the vehicle wash equipment. N/S Corporation makes no further warranties and no implied warranties of merchantability or fitness for a specific purpose.

All terms and conditions apply unless otherwise specified in the contract. This warranty given in lieu of all other expressed warranties on the part of the Manufacturer, Distributors, or Dealers. No Dealer or Distributor (nor any agent, representative or employee thereof) is authorized to extend or enlarge this warranty.

If there are any questions regarding these procedures or you need additional assistance, please contact our ***Director of Customer Service at (310) 330-1250.***

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F: CS-008 Revision Date: 9/26/13

Warranty Procedures

1 Before commencing any warranty work, the N/S Customer Service Department must be contacted and advised that a problem was encountered, which location, and an estimate must be given for any labor cost. The Customer Service Department will then advise the customer as to what action is to be taken.

2 If replacement parts are required, the Customer Service Department will advise the customer where the needed parts can be obtained.

3 All of parts supplied under warranty will be shipped via UPS ground by N/S Corporation. If a more expeditious means are requested, the customers will incur the extra charges.

4 Returned Good Authorization (RGA) will be issued by the N/S Customer Service Department at the time that credit for the replacement parts is requested. All parts returned under an RGA number must be returned within 20 days, freight prepaid and the RGA number must be plainly visible on the outside of the packaging.

5 No Credit will be issued for motors or reducers that do not have the original name plates affixed.

6 If there are any questions regarding the clarification of these procedures, this may be directed to the N/S Director of Customer Service at (800) 782-1582

35

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